



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/757,884	01/14/2004	Mark E. Molander	SJ0920030073US1	5189

29683 7590 09/20/2006
HARRINGTON & SMITH, LLP
4 RESEARCH DRIVE
SHELTON, CT 06484-6212

EXAMINER

SPITTLE, MATTHEW D

ART UNIT	PAPER NUMBER
----------	--------------

2111

DATE MAILED: 09/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/757,884	Applicant(s) MOLANDER ET AL.	
	Examiner Matthew D. Spittle	Art Unit 2111	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5,7,8,13,15,18 and 21-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5,7,8,13,15,18 and 21-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 5, 7, 8, 13, 15, 18 and 21 –34 have been examined.

Claim Objections

- 5 Claim 23 is objected to because of the following informalities: Examiner believes claim 23 is meant to recite, "The portable flash memory device of claim 5..."
- Appropriate correction is required.

Claim Rejections - 35 USC § 103

- 10 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- 15 (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining
- 20 obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating
- 25 obviousness or nonobviousness.

Claims 5, 7, 8, 13 and 21 – 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moran et al. (U.S. Pub. 2003/0161193) in view of Lien et al., Deng et

30 al. (U.S. Pub. 2005/0250536), Learning (U.S. 6,752,321), Jeffries et al. (U.S. 5,579,491), Roth (U.S. Pub. 2003/0023410), and what is well known in the art as evidenced by Papa et al. (U.S. 6,247,079), and Chen et al. (U.S. 6,883,055).

Regarding claim 5, Moran et al. teach a portable flash memory device (10) comprising:

35 A pocket-sized body (paragraph 3 describes several examples of data storage devices which are pocket-sized. Additionally, Examiner takes official notice that it would be obvious to one of ordinary skill in this art at the time of invention by applicant to house all of the components of item 10 in a body for the purpose of protecting and encasing the electronic components within);

40 An intrinsic computer readable storage medium within said body, said storage medium not normally removable from said body (18);

A connector (14) for removably coupling to a host device (see "host computer", paragraph 9) such that an operating system may logically recognize the portable storage device as additional local memory (paragraphs 3, 21);

45 A manual actuator (28, 30, 32);

An indicator (22, 24, 26);

Moran et al. fail to teach wherein the indicator for indicating, following actuation of said actuator, that said portable flash device may be safely removed from a host device to which it is coupled.

50 The problem of data loss and errors that occur during hot-removal of a USB storage device is taught by Learning (column 6, lines 52 – 57), Roth (paragraphs 2 – 3),

Art Unit: 2111

and Deng et al. (paragraph 90). Additionally, these same problems are taught with regard to SCSI disk drives in Jeffries et al. (column 1, lines 48 – 67), and with regard to peripheral device adapters in Lien et al. (column 1, lines 59 – 65).

55 Implementing a “remove button” to signal to the host system that the user wishes to hot-remove a device has been one approach to solving this problem, as taught by Lien et al. (column 2, lines 43 – 63; column 4, lines 28 – 35; column 5, line 51 – column 6, line 24), Jeffries et al. (column 2, lines 29 – 36; column 4, lines 51 – 55), and Roth (paragraphs 20, 21).

60 Examiner takes official notice that it is old and well known in this art to use an indicator to indicate that a device may be safely removed from a system. This is evidenced by Roth (paragraph 23), Jeffries et al. (column 3, lines 13 – 16; column 5, lines 2 – 6; column 7, lines 11 – 12), Papa et al. (column 6, lines 51 – 53, 62 – 64), and Chen et al. (column 3, lines 3 – 4).

65 Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to incorporate an indicator, as taught by Roth, Jeffries et al., Papa et al., and Chen et al., for indicating, following actuation of an actuator, as taught by Lien et al., Jeffries et al., and Roth, that said portable flash device may be safely removed from a host device to which it is coupled for the purpose of indicating to
70 the user that they may remove the device without fear of data loss, or resulting system instability. This would have been obvious in order to make the system more useful reliable.

Regarding claim 7, Jeffries et al. teach the additional limitation wherein the
75 indicator comprises an aural indicator (column 7, lines 11 – 12).

Regarding claim 8, Jeffries et al. teach the additional limitation comprising a
microcontroller (Figure 1, item 24) coupled between said actuator and said connector
that sends a request for the operating system of the host device to execute an interrupt
80 command (column 4, lines 19 – 21). Roth also teaches this limitation (paragraph 21;
Figure 1, items 152, 108).

Regarding claim 13, Moran et al. teach the additional limitation wherein said
indicator uniquely indicates at least three states when portable storage device is
85 coupled to a host device, said three states comprising (paragraph 26):

A normal inactive state whereby no transfer of computer instructions is ongoing
between said portable storage device and said host device (LED 26 off);

A normal active state whereby a transfer of computer instructions is ongoing
between said portable storage device and said host device (LED 26 illuminated);

90 Moran et al fail to teach a ready-to-be-removed state whereby, following
actuation of said actuator, the portable storage device may be removed from the host
device to which it is coupled without loss of corruption of data.

Examiner takes official notice that it is old and well known in this art to use an
LED indicator to indicate when a hot-pluggable device, such as the portable storage
95 device of Moran et al. can safely be removed. This is evidenced by Papa et al. (column

6, lines 51 – 53, 62 – 64), Jeffries et al. (column 3, lines 13 – 16), and Chen et al. (column 3, lines 3 – 4).

Regarding claim 21, Moran et al. teach the additional limitation comprising a
100 power source independent of the host device (interpreted as a battery, 36).

Regarding claim 22, Examiner takes official notice that it is old and well known in the digital electronics arts to provide a vibrating indicator for the purpose of alerting a user. This is evidenced by MacDonald et al. (U.S. 5,293,161) in column 1, lines 15 –
105 34, McRae et al. (U.S. 4,731,603) in the abstract, Kagan (U.S. 3,623,064) in column 1, lines 5 – 50, and Gutman et al. (U.S. 5,436,622) in the abstract.

Regarding claim 23, Moran et al. teach the additional limitation wherein said indicator comprises a visual indicator integrated into the actuator for indicating (26).
110

Regarding claim 24, Moran et al. teach the additional limitation wherein said indicator comprises a visual indicator that changes between blinking and steady for indicating (paragraph 26).

115 Regarding claim 25, Moran et al. teach the additional limitation wherein the connector comprises a USB connector rigidly extending from said body (14), but fails to teach a body with an elliptical shape. Examiner notes that a change in the shape of a

Art Unit: 2111

prior art device is a design consideration within the skill of the art, and is not a patentable distinction. In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

* * *

Claims 15, 18 and 28 – 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moran et al. (U.S. Pub. 2003/0161193) in view of Lien et al., Deng et al. (U.S. Pub. 2005/0250536), Learning (U.S. 6,752,321), Jeffries et al. (U.S. 5,579,491), Roth (U.S. Pub. 2003/0023410), and what is well known in the art as evidenced by Papa et al. (U.S. 6,247,079), and Chen et al. (U.S. 6,883,055).

Regarding claim 15, Moran et al. teach a system for transferring a file embodied on a computer storage medium comprising a host device (see “host computer”, paragraph 9) and a portable flash memory device (10),

Said host device comprising a host storage medium (Moran et al. implicitly discloses the host device comprising a host storage medium since the portable storage device is provided to exchange data between it and a computer; paragraphs 6, 7, 9), a host operating system of computer instructions that logically recognizes the portable flash memory device as additional local memory (paragraphs 3, 21), and a receptacle for receiving a connector (interpreted as a USB port; paragraph 20, 21);

Said portable flash memory device comprising:

A pocket-sized body (paragraph 3 describes several examples of data storage
140 devices which are pocket-sized. Additionally, Examiner takes official notice that it would
be obvious to one of ordinary skill in this art at the time of invention by applicant to
house all of the components of item 10 in a body for the purpose of protecting and
encasing the electronic components within);

A connector (14) for mating with said receptacle;

145 An intrinsic computer readable storage medium within said body that is not
normally removable from said body (18);

A manual actuator (28, 30, 32);

An indicator (22, 24, 26);

Moran et al. fail to teach the actuator for initiating computer instructions to
150 remove said portable flash memory device from said host device.

The problem of data loss and errors that occur during hot-removal of a USB
storage device is taught by Learning (column 6, lines 52 – 57), Roth (paragraphs 2 – 3),
and Deng et al. (paragraph 90). Additionally, these same problems are taught with
regard to SCSI disk drives in Jeffries et al. (column 1, lines 48 – 67), and with regard to
155 peripheral device adapters in Lien et al. (column 1, lines 59 – 65).

Implementing a “remove button” to signal to the host system that the user wishes
to hot-remove a device has been one approach to solving this problem, as taught by
Lien et al. (column 2, lines 43 – 63; column 4, lines 28 – 35; column 5, line 51 – column
6, line 24), Jeffries et al. (column 2, lines 29 – 36; column 4, lines 51 – 55), and Roth
160 (paragraphs 20, 21).

Art Unit: 2111

Moran et al. fail to teach the indicator for indicating to a user at least that said portable flash memory device may be removed from said host device following actuation of said actuator without loss of data and without corruption of data.

Examiner takes official notice that it is old and well known in this art to use an
165 indicator to indicate that a device may be safely removed from a system. This is evidenced by Roth (paragraph 23), Jeffries et al. (column 3, lines 13 – 16; column 5, lines 2 – 6; column 7, lines 11 – 12), Papa et al. (column 6, lines 51 – 53, 62 – 64), and Chen et al. (column 3, lines 3 – 4).

Therefore, it would have been obvious to one of ordinary skill in this art at the
170 time of invention by applicant to incorporate an indicator, as taught by Roth, Jeffries et al., Papa et al., and Chen et al., for indicating, following actuation of an actuator, as taught by Lien et al., Jeffries et al., and Roth, that said portable flash device may be safely removed from a host device to which it is coupled for the purpose of indicating to the user that they may remove the device without fear of data loss, or resulting system
175 instability. This would have been obvious in order to make the system more useful reliable.

Regarding claim 18, Jeffries et al. teach the additional limitation wherein the indicator comprises an aural indicator (column 7, lines 11 – 12).

180 .
Regarding claim 28, Jeffries et al. teach the additional limitation wherein the indicator comprises an aural indicator (column 7, lines 11 – 12).

185 Regarding claim 29, Examiner takes official notice that it is old and well known in
the digital electronics arts to provide a vibrating indicator for the purpose of alerting a
user. This is evidenced by MacDonald et al. (U.S. 5,293,161) in column 1, lines 15 –
34, McRae et al. (U.S. 4,731,603) in the abstract, Kagan (U.S. 3,623,064) in column 1,
lines 5 – 50, and Gutman et al. (U.S. 5,436,622) in the abstract.

190 Regarding claim 30, Moran et al. teach the additional limitation wherein said
indicator comprises a visual indicator integrated into the actuator for indicating (26).

195 Regarding claim 31, Moran et al. teach the additional limitation wherein said
indicator comprises a visual indicator that changes between blinking and steady for
indicating (paragraph 26).

200 Regarding claim 32, Learning teaches the additional limitation wherein said
indicator uniquely indicates each of four states: normal-active; normal-inactive; error;
and ready-for removal (column 14, lines 48 – 67).

 Regarding claim 33, Moran et al. teach the additional limitation comprising a
power source independent of the host device (interpreted as a battery, 36).

Regarding claim 34, Moran et al. teach the additional limitation wherein the
205 connector comprises a USB connector rigidly extending from said body (14), but fails to
teach a body with an elliptical shape. Examiner notes that a change in the shape of a
prior art device is a design consideration within the skill of the art, and is not a
patentable distinction. In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

* * *

210
Claims 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable
over Moran et al. (U.S. Pub. 2003/0161193) in view of Lien et al., Deng et al. (U.S. Pub.
2005/0250536), Learning (U.S. 6,752,321), Jeffries et al. (U.S. 5,579,491), Roth (U.S.
215 Pub. 2003/0023410), Deng et al. (U.S. 6,795,327) and what is well known in the art as
evidenced by Papa et al. (U.S. 6,247,079), and Chen et al. (U.S. 6,883,055).

Regarding claim 26, Moran et al., Lien et al., Deng et al., Learning, Jeffries, and
Roth fail to teach wherein the host device comprises a digital camera.

Deng et al. (U.S. 6,795,327) teaches that digital cameras benefit from having
220 large capacity, high speed semiconductor storage (column 1, lines 13 – 35), and can be
interfaced with a USB bus to exchange data (column 5, lines 30 – 47; column 7, lines 1
– 5).

Therefore, it would have been obvious to one of ordinary skill in this art at the
time of invention by applicant to operate the portable storage device of Moran et al.,
225 Lien et al., Deng et al., Learning, Jeffries and Roth with the digital camera of Deng et al.

for the purpose of transferring and storing digital camera data. This would have been obvious in order distribute the data been multiple data processing systems.

Regarding claim 27, Moran et al., Lien et al., Deng et al., Learning, Jeffries, and
230 Roth fail to teach wherein the host device comprises a mobile phone.

Deng et al. (U.S. 6,795,327) teaches that mobile phones benefit from having large capacity, high speed semiconductor storage (column 1, lines 13 – 35), and can be interfaced with a USB bus to exchange data (column 5, lines 30 – 47; column 7, lines 1 – 5).

235 Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to operate the portable storage device of Moran et al., Lien et al., Deng et al., Learning, Jeffries and Roth with the mobile phone of Deng et al. for the purpose of transferring and storing digital camera data. This would have been obvious in order distribute the data been multiple data processing systems.

240

Response to Arguments

Regarding Applicant's argument that the button and LEDs of Moran are on a user interface from which the flash memory 18 is normally removable, Examiner is unable to find any supporting evidence. Paragraph 29 discloses that the instructions for controller
245 12 may be stored in flash memory 18, and that the controller generally need not be reprogrammed subsequent to manufacture. In this implementation, removing the flash memory would disable the controller 12, and thus the entire portable storage device

Art Unit: 2111

from functioning. Replacing flash memory 18 with any other module would require it to be reprogrammed with the controller instructions, which would appear to be beyond the capability of an ordinary user. For these reasons, Examiner believes flash memory 18 to be not normally removable.

Regarding Applicant's argument that the teachings of Jeffries et al. would not be recognized by one of ordinary skill in the art as appropriate for flash devices. Examiner notes that one of ordinary skill in the art has knowledge of all prior art at the time of invention by applicant, and as such, would know of U.S. 5,680,579 to Young et al. Young et al. describe a redundant array of flash devices for providing a more rugged and reliable storage system than magnetic disk devices (column 3, lines 25 – 35). Therefore, Examiner finds that the magnetic-type drives of Jeffries et al. could be substituted with flash devices.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew D. Spittle whose telephone number is (571) 272-2467. The examiner can normally be reached on Monday - Friday, 8 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on 571-272-3632. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

270 Information regarding the status of an application may be obtained from the
Patent Application Information Retrieval (PAIR) system. Status information for
published applications may be obtained from either Private PAIR or Public PAIR.
Status information for unpublished applications is available through Private PAIR only.
For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should
275 you have questions on access to the Private PAIR system, contact the Electronic
Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a
USPTO Customer Service Representative or access to the automated information
system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

280


MDS



MARK H. RINEHART
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100